

Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Methods: 63

Sample # 240213

Regular PT Scheme Sample Doubles with N Scheme

Labs Reporting: 70

Urea 46-0-0

Statistical Summary

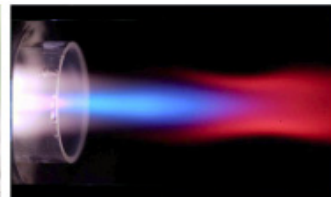
Issue Date : 03/31/2024

Method Code	Analyte & Method Sample # 240213	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Horwitz %RSD
001.10	Ammoniacal N, Magnesium Oxide Method (%)	1		0.5750									
001.99	Ammoniacal N, Other (%)	2	2	23.46	32.19								
002.99	Nitrate N, Other (%)	1		0.1000									
003.10	Water Insoluble N, Method I (%)	1		0.8850									
005.00	Urea N, Urease (as N) (%)	1		17.85									
005.10	Urea N, HPLC(asN),H2Omobilephase (%)	1		46.64									
005.99	Urea N, Other (%)	7	7	45.60	1.210	45.95		0.4150	0.1961	0.90%		0.1267	1.48%
007.99	Urea, Other (%)	3	3	46.02	0.6028	46.02		0.6028	0.4350	1.31%		0.2933	1.47%
008.00	Biuret, AA (as Biuret) (%)	2	2	1.023	0.3642								
008.10	Biuret, Spectrophotometric (as Biuret) (%)	6	6	1.004	0.0635	1.004		0.0720	0.0368	7.17%		0.0140	4.00%
008.99	Biuret, Other (%)	2	2	1.000	0.1980								
010.12	Total N, Salicylic (46%)	4	4	45.68	0.4635	45.68	0.8800	0.4635	0.2897	1.01%	1.23	0.3161	1.48%
010.60	Total N, Combustion (46%)	48	47	46.29	0.5800	46.33	0.8800	0.4608	0.0840	0.99%	1.22	0.1786	1.47%
010.99	Total N, Other (46%)	12	12	45.93	0.2999	45.96	0.8800	0.2769	0.0999	0.60%	0.73	0.1423	1.48%
020.50	Total P2O5, ICP (%)	3	3	0.0481	0.0260	0.0481		0.0259	0.0187	53.93%		0.0463	6.31%
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext.	1		0.0400									
050.50	Soluble K2O, ICP (Oxalate) (%)	1		0.0290									
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	1		0.0150									
050.99	Soluble K2O, Other (%)	2	2	0.0303	0.0216								
060.00	Water (Free), Vacuum Oven (%)	4	4	0.0609	0.0119	0.0609		0.0119	0.0074	19.53%		0.0137	6.09%
060.20	Water (Free), Karl Fischer (%)	4	4	0.2063	0.1006	0.2063		0.1006	0.0628	48.75%		0.0107	5.07%
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 hours, 5g samp	1		0.2300									
060.99	Water (Free), Other (%)	3	3	0.0933	0.0503	0.0933		0.0503	0.0363	53.93%		0.0333	5.72%
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	1		0.0700									
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	1		0.0150									
121.99	Acid Soluble Mg, Other (%)	1		0.0007									
148.99	Total S, Other (%)	2	1	0.0103	0.0004								
149.04	S - HNO3 soluble, ICP (%)	1		0.0067									
151.30	Acid Soluble As, ICP (ppm)	3	2	2.073	3.574	0.0094		0.0037	0.0033	39.12%		0.0038	22.00%

Method Code	Analyte & Method Sample # 240213	# Tests Submitted	# Tests in Robust Calculations	Raw Mean	Raw SD	Assigned Value Robust Mean	IA at Method Value	Robust sd	Robust Uncertainty (U)	Robust % RSD	Method IA Ratio	Average Range (R-bar)	Horwitz %RSD
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	1		0.5000									
151.99	Acid Soluble As, Other (ppm)	1		0.5000									
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	1		0.0100									
181.30	Acid Soluble Cd, ICP (ppm)	3	1	0.6190	1.066	0.0094		0.0037	0.0046	39.12%		0.0036	22.00%
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	1		0.1000									
181.99	Acid Soluble Cd, Other (ppm)	1		0.1000									
191.30	Acid Soluble Cr, ICP (ppm)	2	1	0.7998	0.5660								
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	1		0.1000									
191.99	Acid Soluble Cr, Other (ppm)	1		0.1000									
202.30	Acid Soluble Co, ICP (ppm)	1		0.0208									
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	1		0.1000									
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	1		0.0100									
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	1		0.0150									
241.99	Acid Soluble Fe, Other (%)	1		0.0007									
251.30	Acid Soluble Pb, ICP (ppm)	3	1	1.723	2.839	0.0094		0.0037	0.0046	39.12%		0.0036	22.00%
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	1		0.1000									
251.99	Acid Soluble Pb, Other (ppm)	1		0.1500									
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	1		0.0100									
261.99	Acid Soluble Mn, Other (%)	1		0.0001									
281.30	Acid Soluble Hg, ICP (ppm)	2	1	0.6255	0.8832								
281.99	Acid Soluble Hg, Other (ppm)	2	1	0.0055	0.0064								
289.30	Acid Soluble Mo, ICP (ppm)	1		0.0867									
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	1		0.1000									
289.99	Acid Soluble Mo, Other (ppm)	1		0.1500									
291.30	Acid Soluble Ni, ICP (ppm)	2	1	1.258	1.615								
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	1		0.1000									
291.99	Acid Soluble Ni, Other (ppm)	1		0.1500									
301.30	Acid Soluble Se, ICP (ppm)	1		1.650									
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	1		0.2000									
301.99	Acid Soluble Se, Other (ppm)	1		0.2500									
311.99	Sodium, Other (%)	1		0.0300									
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	1		0.0100									
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	1		0.0003									
321.99	Acid Soluble Zn, Other (%)	1		0.0006									

The Method IA Ratio = 2.33 * Robust SD / IA at the Method Assigned Value. IA ratios of 1 and less indicate participant data dispersion is as good or less than the IA. Red indicates the IA ratio is significantly greater than 1, Orange indicates marginally greater than 1, Green indicates IA ratio is not significantly greater than 1 and Grey indicates < 6 labs reporting. The Horwitz %RSD is calculated using the Thompson Modification, Analyst,2000,125,385-386.

Horwitz %RSD
Average Range (R-bar)
Method IA Ratio
Robust % RSD
Robust Uncertainty (U)
Robust sd
IA at Method Value
Assigned Value Robust Mean
Raw SD
Raw Mean
Tests in Robust Calculations
Tests Submitted
Analyte & Method Sample # 240213
Method Code



Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Sample # 240213

Regular PT Scheme Sample Doubles with N Scheme

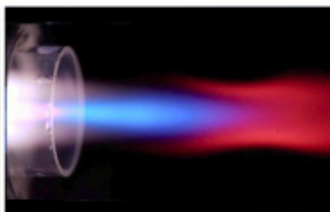
Urea 46-0-0

Method Precision Report

Issue Date : 03/31/2024

Method Code	Analyte & Method	# Tests Submitted	# Tests Used in Precision Calcs	Mean	SD	Between Labs sL	Within Labs sr	Reproducibility sR	Between Labs %RSD	Within Labs %rsd	Reproducibility %RSD	sR/sr
005.99	Urea N, Other (%)	7	6	46.05	0.2651	0.2568	0.0931	0.2732	0.56%	0.20%	0.59%	2.936
008.10	Biuret, Spectrophotometric (as Biuret) (%)	6	6	1.004	0.0635	0.0632	0.0096	0.0639	6.29%	0.95%	6.36%	6.672
010.60	Total N, Combustion (46%)	48	46	46.33	0.5025	0.4855	0.1829	0.5189	1.05%	0.39%	1.12%	2.836
010.99	Total N, Other (46%)	12	11	45.93	0.3141	0.2910	0.1674	0.3357	0.63%	0.36%	0.73%	2.005

Notes: Precision data calculated when 5 or more Tests included.



Method PT For All Labs

Magruder Fertilizer Proficiency Testing Program

Methods: 63

Sample # 240213

Regular PT Scheme Sample Doubles with N Scheme

Labs Reporting: 70

Urea 46-0-0

Lab Values

Issue Date : 03/31/2024

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
001.10	Ammoniacal N, Magnesium Oxide Method (%)	0136	0.5750	0.0400				1			0
001.99	Ammoniacal N, Other (%)	0524	0.7017	0.0316				2			0
001.99	Ammoniacal N, Other (%)	0027	46.23	0.0300				2			0
002.99	Nitrate N, Other (%)	0136	< 0.1					0			5
003.10	Water Insoluble N, Method I (%)	0136	0.8850	0.0100				1			0
005.00	Urea N, Urease (as N) (%)	0136	17.85	0.7500				1			0
005.10	Urea N, HPLC(asN),H2Omobilephase (%)	0394	46.64	0.5400				1			0
005.99	Urea N, Other (%)	0524	42.91	0.1967	45.95	0.4150	0.1267	7	-6.61	NA	0
005.99	Urea N, Other (%)	0562	45.80	0.0100	45.95	0.4150	0.1267	7	-0.33	NA	0
005.99	Urea N, Other (%)	0564	45.88	0.0600	45.95	0.4150	0.1267	7	-0.14	NA	0
005.99	Urea N, Other (%)	0638	45.89	0.1400	45.95	0.4150	0.1267	7	-0.12	NA	0
005.99	Urea N, Other (%)	0635	46.06	0.2100	45.95	0.4150	0.1267	7	0.24	NA	0
005.99	Urea N, Other (%)	0619	46.16	0.1300	45.95	0.4150	0.1267	7	0.46	NA	0
005.99	Urea N, Other (%)	0605	46.52	0.1400	45.95	0.4150	0.1267	7	1.25	NA	0
007.99	Urea, Other (%)	0553	45.45	0.7000	46.02	0.6028	0.2933	3	-0.94		0
007.99	Urea, Other (%)	0444	45.95	0.1000	46.02	0.6028	0.2933	3	-0.11		0
007.99	Urea, Other (%)	0537	46.65	0.0800	46.02	0.6028	0.2933	3	1.05		0
008.00	Biuret, AA (as Biuret) (%)	0498	0.7650	0.0300				2			0
008.00	Biuret, AA (as Biuret) (%)	0501	1.280	0.1400				2			0
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0572	0.9000	0.0000	1.004	0.0720	0.0140	6	-1.29	NA	0
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0405	0.9750	0.0100	1.004	0.0720	0.0140	6	-0.36	NA	0
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0371	0.9850	0.0100	1.004	0.0720	0.0140	6	-0.24	NA	0
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0444	1.040	0.0200	1.004	0.0720	0.0140	6	0.44	NA	0
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0517	1.060	0.0200	1.004	0.0720	0.0140	6	0.69	NA	0
008.10	Biuret, Spectrophotometric (as Biuret) (%)	0513	1.065	0.0100	1.004	0.0720	0.0140	6	0.75	NA	0
008.99	Biuret, Other (%)	0394	0.8600	0.0200				2			0
008.99	Biuret, Other (%)	0220	1.140	0.0200				2			0
010.12	Total N, Salicylic (46%)	0572	45.08	0.2500	45.68	0.4635	0.3161	4	-1.30		0
010.12	Total N, Salicylic (46%)	0117	45.58	0.5983	45.68	0.4635	0.3161	4	-0.20		0
010.12	Total N, Salicylic (46%)	0498	45.90	0.0000	45.68	0.4635	0.3161	4	0.48		0
010.12	Total N, Salicylic (46%)	0602	46.15	0.1000	45.68	0.4635	0.3161	4	1.02		0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
010.60	Total N, Combustion (46%)	0025	44.97	0.2200	46.33	0.4608	0.1786	47	-2.95	Low	0
010.60	Total N, Combustion (46%)	0472	45.50	0.2900	46.33	0.4608	0.1786	47	-1.81	OK	0
010.60	Total N, Combustion (46%)	0234	45.55	0.1000	46.33	0.4608	0.1786	47	-1.69	OK	0
010.60	Total N, Combustion (46%)	0136	45.60	0.2600	46.33	0.4608	0.1786	47	-1.58	OK	0
010.60	Total N, Combustion (46%)	0307	45.64	0.6100	46.33	0.4608	0.1786	47	-1.50	OK	0
010.60	Total N, Combustion (46%)	0095	45.65	0.2900	46.33	0.4608	0.1786	47	-1.48	OK	0
010.60	Total N, Combustion (46%)	0292	45.68	0.0200	46.33	0.4608	0.1786	47	-1.41	OK	0
010.60	Total N, Combustion (46%)	0055	45.73	0.0650	46.33	0.4608	0.1786	47	-1.29	OK	0
010.60	Total N, Combustion (46%)	0452	45.90	0.5860	46.33	0.4608	0.1786	47	-0.93	OK	0
010.60	Total N, Combustion (46%)	0102	45.96	0.1000	46.33	0.4608	0.1786	47	-0.80	OK	0
010.60	Total N, Combustion (46%)	0402	45.97	0.1170	46.33	0.4608	0.1786	47	-0.77	OK	0
010.60	Total N, Combustion (46%)	0534	46.15	0.1000	46.33	0.4608	0.1786	47	-0.39	OK	0
010.60	Total N, Combustion (46%)	0389	46.16	0.0300	46.33	0.4608	0.1786	47	-0.37	OK	0
010.60	Total N, Combustion (46%)	0619	46.16	0.1300	46.33	0.4608	0.1786	47	-0.37	OK	0
010.60	Total N, Combustion (46%)	0043	46.16	0.1000	46.33	0.4608	0.1786	47	-0.36	OK	0
010.60	Total N, Combustion (46%)	0593	46.22	0.6100	46.33	0.4608	0.1786	47	-0.24	OK	0
010.60	Total N, Combustion (46%)	0177	46.22	0.1880	46.33	0.4608	0.1786	47	-0.22	OK	0
010.60	Total N, Combustion (46%)	0231	46.23	0.2800	46.33	0.4608	0.1786	47	-0.21	OK	0
010.60	Total N, Combustion (46%)	0023	46.28	0.3780	46.33	0.4608	0.1786	47	-0.11	OK	0
010.60	Total N, Combustion (46%)	0588	46.28	1.260	46.33	0.4608	0.1786	47	-0.10	OK	0
010.60	Total N, Combustion (46%)	0220	46.35	0.1200	46.33	0.4608	0.1786	47	0.05	OK	0
010.60	Total N, Combustion (46%)	0324	46.35	0.1000	46.33	0.4608	0.1786	47	0.05	OK	0
010.60	Total N, Combustion (46%)	0423	46.35	0.0400	46.33	0.4608	0.1786	47	0.05	OK	0
010.60	Total N, Combustion (46%)	0169	46.36	0.0200	46.33	0.4608	0.1786	47	0.07	OK	0
010.60	Total N, Combustion (46%)	0371	46.38	0.0200	46.33	0.4608	0.1786	47	0.11	OK	0
010.60	Total N, Combustion (46%)	0586	46.42	0.1200	46.33	0.4608	0.1786	47	0.20	OK	0
010.60	Total N, Combustion (46%)	0029	46.44	0.0600	46.33	0.4608	0.1786	47	0.24	OK	0
010.60	Total N, Combustion (46%)	0521	46.45	0.0000	46.33	0.4608	0.1786	47	0.27	OK	0
010.60	Total N, Combustion (46%)	0405	46.46	0.0100	46.33	0.4608	0.1786	47	0.28	OK	0
010.60	Total N, Combustion (46%)	0157	46.50	0.2000	46.33	0.4608	0.1786	47	0.37	OK	0
010.60	Total N, Combustion (46%)	0451	46.50	0.2000	46.33	0.4608	0.1786	47	0.37	OK	0
010.60	Total N, Combustion (46%)	0377	46.54	0.4900	46.33	0.4608	0.1786	47	0.45	OK	0
010.60	Total N, Combustion (46%)	0042	46.55	0.3100	46.33	0.4608	0.1786	47	0.47	OK	0
010.60	Total N, Combustion (46%)	0354	46.55	0.1000	46.33	0.4608	0.1786	47	0.48	OK	0
010.60	Total N, Combustion (46%)	0523	46.58	0.0350	46.33	0.4608	0.1786	47	0.54	OK	0
010.60	Total N, Combustion (46%)	0561	46.61	0.0500	46.33	0.4608	0.1786	47	0.60	OK	0
010.60	Total N, Combustion (46%)	0501	46.63	0.2100	46.33	0.4608	0.1786	47	0.65	OK	0
010.60	Total N, Combustion (46%)	0494	46.70	0.1000	46.33	0.4608	0.1786	47	0.81	OK	0
010.60	Total N, Combustion (46%)	0291	46.72	0.0200	46.33	0.4608	0.1786	47	0.85	OK	0
010.60	Total N, Combustion (46%)	0527	46.73	0.2700	46.33	0.4608	0.1786	47	0.87	OK	0
010.60	Total N, Combustion (46%)	0131	46.74	0.0270	46.33	0.4608	0.1786	47	0.90	OK	0
010.60	Total N, Combustion (46%)	0368	46.77	0.6570	46.33	0.4608	0.1786	47	0.97	OK	0
010.60	Total N, Combustion (46%)	0040	46.80	0.2000	46.33	0.4608	0.1786	47	1.03	OK	0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
010.60	Total N, Combustion (46%)	0422	46.97	0.0300	46.33	0.4608	0.1786	47	1.38	OK	0
010.60	Total N, Combustion (46%)	0114	47.17	0.3300	46.33	0.4608	0.1786	47	1.82	OK	0
010.60	Total N, Combustion (46%)	0255	47.32	0.4320	46.33	0.4608	0.1786	47	2.16	High	0
010.60	Total N, Combustion (46%)	0049	47.65	0.0600	46.33	0.4608	0.1786	47	2.87	High	0
010.60	Total N, Combustion (46%)	0073	44.20	3.920	46.33	0.4608	0.1786	47	-4.62	Low	1
010.99	Total N, Other (46%)	0615	45.30	0.2000	45.96	0.2769	0.1423	12	-2.37	OK	0
010.99	Total N, Other (46%)	0553	45.45	0.7000	45.96	0.2769	0.1423	12	-1.83	OK	0
010.99	Total N, Other (46%)	0600	45.80	0.2000	45.96	0.2769	0.1423	12	-0.57	OK	0
010.99	Total N, Other (46%)	0524	45.88	0.9499	45.96	0.2769	0.1423	12	-0.29	OK	0
010.99	Total N, Other (46%)	0562	45.91	0.0200	45.96	0.2769	0.1423	12	-0.17	OK	0
010.99	Total N, Other (46%)	0560	45.95	0.0500	45.96	0.2769	0.1423	12	-0.04	OK	0
010.99	Total N, Other (46%)	0444	45.95	0.1000	45.96	0.2769	0.1423	12	-0.02	OK	0
010.99	Total N, Other (46%)	0564	46.10	0.0000	45.96	0.2769	0.1423	12	0.52	OK	0
010.99	Total N, Other (46%)	0602	46.15	0.1000	45.96	0.2769	0.1423	12	0.70	OK	0
010.99	Total N, Other (46%)	0619	46.16	0.1300	45.96	0.2769	0.1423	12	0.72	OK	0
010.99	Total N, Other (46%)	0517	46.22	0.0800	45.96	0.2769	0.1423	12	0.95	OK	0
010.99	Total N, Other (46%)	0513	46.29	0.0200	45.96	0.2769	0.1423	12	1.20	OK	0
020.50	Total P2O5, ICP (%)	0524	0.0284	0.0029	0.0481	0.0259	0.0463	3	-0.76		0
020.50	Total P2O5, ICP (%)	0422	0.0385	0.0110	0.0481	0.0259	0.0463	3	-0.37		0
020.50	Total P2O5, ICP (%)	0588	0.0775	0.1250	0.0481	0.0259	0.0463	3	1.13		0
041.21	Direct Available P2O5, Spectrophotometric, Citrate-EDTA Ext. (0354	0.0400	0.0060				1			0
050.50	Soluble K2O, ICP (Oxalate) (%)	0422	0.0290	0.0020				1			0
050.52	Soluble K2O, ICP (Citrate-EDTA) (%)	0354	0.0150	0.0060				1			0
050.99	Soluble K2O, Other (%)	0524	0.0150	0.0078				2			0
050.99	Soluble K2O, Other (%)	0588	0.0455	0.0010				2			0
060.00	Water (Free), Vacuum Oven (%)	0561	0.0450	0.0100	0.0609	0.0119	0.0137	4	-1.34		0
060.00	Water (Free), Vacuum Oven (%)	0220	0.0585	0.0110	0.0609	0.0119	0.0137	4	-0.20		0
060.00	Water (Free), Vacuum Oven (%)	0405	0.0700	0.0000	0.0609	0.0119	0.0137	4	0.77		0
060.00	Water (Free), Vacuum Oven (%)	0485	0.0700	0.0200	0.0609	0.0119	0.0137	4	0.77		0
060.20	Water (Free), Karl Fischer (%)	0234	0.1200	0.0200	0.2063	0.1006	0.0107	4	-0.86		0
060.20	Water (Free), Karl Fischer (%)	0513	0.1605	0.0010	0.2063	0.1006	0.0107	4	-0.45		0
060.20	Water (Free), Karl Fischer (%)	0517	0.1945	0.0110	0.2063	0.1006	0.0107	4	-0.12		0
060.20	Water (Free), Karl Fischer (%)	0371	0.3500	0.0000	0.2063	0.1006	0.0107	4	1.43		0
060.30	Water (Free), AFPC No. 2B (105°C oven for 2 hours, 5g sampl	0593	0.2300	0.0400				1			0
060.99	Water (Free), Other (%)	0586	0.0400	0.0600	0.0933	0.0503	0.0333	3	-1.06		0
060.99	Water (Free), Other (%)	0136	0.1000	0.0200	0.0933	0.0503	0.0333	3	0.13		0
060.99	Water (Free), Other (%)	0498	0.1400	0.0200	0.0933	0.0503	0.0333	3	0.93		0
101.30	Acid Soluble Ca, ICP, test portion inorganic 965.09 (%)	0354	0.0700	0.0200				1			0
121.30	Acid Soluble Mg, ICP, test portion inorganic 965.09 (%)	0354	0.0150	0.0100				1			0
121.99	Acid Soluble Mg, Other (%)	0524	0.0007	0.0000				1			0
148.99	Total S, Other (%)	0422	0.0105	0.0010				1			0
148.99	Total S, Other (%)	0354	< 0.01					1			5
149.04	S - HNO3 soluble, ICP (%)	0524	0.0067	0.0003				1			0

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
151.30	Acid Soluble As, ICP (ppm)	0524	0.0068	0.0036				2			0
151.30	Acid Soluble As, ICP (ppm)	0630	0.0120	0.0040				2			0
151.30	Acid Soluble As, ICP (ppm)	0605	< 6.2					2			5
151.32	Acid Soluble As, ICP, 2006.03 (ppm)	0220	< 0.5					0			5
151.99	Acid Soluble As, Other (ppm)	0220	< 0.5					0			5
165.30	Acid Soluble B, ICP, test portion in 982.01 (%)	0354	< 0.01					0			5
181.30	Acid Soluble Cd, ICP (ppm)	0524	0.0044	0.0024				1			0
181.30	Acid Soluble Cd, ICP (ppm)	0630	0.0025	0.0050				1			4
181.30	Acid Soluble Cd, ICP (ppm)	0605	< 1.85					1			5
181.32	Acid Soluble Cd, ICP, 2006.03 (ppm)	0220	< 0.1					0			5
181.99	Acid Soluble Cd, Other (ppm)	0220	< 0.1					0			5
191.30	Acid Soluble Cr, ICP (ppm)	0524	0.3996	0.1057				1			0
191.30	Acid Soluble Cr, ICP (ppm)	0605	< 1.2					1			5
191.32	Acid Soluble Cr, ICP, 2006.03 (ppm)	0220	< 0.1					0			5
191.99	Acid Soluble Cr, Other (ppm)	0220	< 0.1					0			5
202.30	Acid Soluble Co, ICP (ppm)	0524	0.0208	0.0212				1			0
202.32	Acid Soluble Co, ICP, 2006.03 (ppm)	0220	< 0.1					0			5
221.30	Acid Soluble Cu, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					0			5
241.30	Acid Soluble Fe, ICP, test portion inorganic 965.09 (%)	0354	0.0150	0.0100				1			0
241.99	Acid Soluble Fe, Other (%)	0524	0.0007	0.0003				1			0
251.30	Acid Soluble Pb, ICP (ppm)	0524	0.1658	0.0648				1			0
251.30	Acid Soluble Pb, ICP (ppm)	0630	0.0025	0.0050				1			4
251.30	Acid Soluble Pb, ICP (ppm)	0605	< 5					1			5
251.32	Acid Soluble Pb, ICP, 2006.03 (ppm)	0220	0.1000	0.0000				1			0
251.99	Acid Soluble Pb, Other (ppm)	0220	0.1500	0.1000				1			0
261.30	Acid Soluble Mn, ICP, test portion 972.02a (%)	0354	< 0.01					0			5
261.99	Acid Soluble Mn, Other (%)	0524	0.0001	0.0000				1			0
281.30	Acid Soluble Hg, ICP (ppm)	0630	0.0010	0.0000				1			0
281.30	Acid Soluble Hg, ICP (ppm)	0605	< 1.25					1			5
281.99	Acid Soluble Hg, Other (ppm)	0524	0.0010	0.0001				1			0
281.99	Acid Soluble Hg, Other (ppm)	0220	< 0.01					1			5
289.30	Acid Soluble Mo, ICP (ppm)	0524	0.0867	0.0522				1			0
289.32	Acid Soluble Mo, ICP, 2006.03 (ppm)	0220	0.1000	0.0000				1			0
289.99	Acid Soluble Mo, Other (ppm)	0220	0.1500	0.1000				1			0
291.30	Acid Soluble Ni, ICP (ppm)	0524	0.1167	0.0207				1			0
291.30	Acid Soluble Ni, ICP (ppm)	0605	< 2.4					1			5
291.32	Acid Soluble Ni, ICP, 2006.03 (ppm)	0220	< 0.1					0			5
291.99	Acid Soluble Ni, Other (ppm)	0220	0.1500	0.1000				1			0
301.30	Acid Soluble Se, ICP (ppm)	0605	< 1.65					0			5
301.32	Acid Soluble Se, ICP, 2006.03 (ppm)	0220	0.2000	0.2000				1			0
301.99	Acid Soluble Se, Other (ppm)	0220	0.2500	0.1000				1			0
311.99	Sodium, Other (%)	0354	0.0300	0.0000				1			0
321.30	Acid Soluble Zn, ICP, test portion inorganic 965.09 (%)	0354	< 0.01					0			5

Method Code	Analyte Name and Method (Units)	Lab Code	Lab Data		*Robust Method Values			# Tests	Magruder PT Z Score	Method IA Status	Flag
			Value	Range	Rob Mean	Rob SD	Rob R-bar				
321.32	Acid Soluble Zn, ICP, test portion 2006.03A-C (%)	0220	0.0003	0.0001				1			0
321.99	Acid Soluble Zn, Other (%)	0524	0.0006	0.0001				1			0

Interpreting Z Scores and Flags:

Interpreting Z Scores: Red indicates a normally distributed Z value >3 or <-3 (requires action), Orange = Z between 2 and 3 or -2 and -3 (warning) and Green = Z < 2 and >-2 (OK at 95%). Flags indicate data usage: 0 = Used, 1 = rejected for duplicates too far apart, 2 = rejected as extreme outlier, 3 = removed from stats, 4 = rejected due to 0s submitted and 5 = LOD. A 9 flag indicates a data problem - scores not calculated.

Notes:

*Robust statistics not used if < 6 labs used in calculations, in this case Values and Z Scores are grayed out and should be interpreted with extreme caution. Identical duplicates not included in calculation of Rob R-bar. IA Status describes where your result is relative to the Assigned Value ± IA. Red indicates Higher or Lower and Green indicates within the IA range about the Robust mean. Method codes in light green indicate a guaranteed analyte. Individual lab values may be below detection limits but are reported solely for